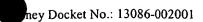
What is claimed:

29

	1	1. A vector comprising from 5' to 3':			
	2	a) a packaging sequence;			
	3	b) a heterològous insert sequence or restriction sites for insertion of a heterologous			
	4	sequence; and			
	5	c) a 3' long terminal repeat (LTR) sequence,			
	6	wherein at least two codons of the packaging sequence are altered so as to reduce			
	7	formation of fusion polypeptides encoded by the packaging sequence or a portion thereof,			
	8	and the heterologous insert sequence.			
	9				
	10	2. The vector of claim 1, wherein at least two ATG codons of the packaging			
Ö.	11	sequence have been altered.			
N.	12				
T.	13	3. The vector of claim 2, wherein the ATG initiation codon of the packaging			
a '	14	sequence and at least one internal ATG codon of the packaging sequence have been altered.			
H C	15	•			
	16	4. The vector of claim 1, wherein the packaging sequence is a gag sequence.			
Ö	17				
Ħ.	18	5. The vector of claim 4, wherein the gag sequence is an amino-terminal portion			
•	19	of the gag gene.			
2	20				
2	21	6. The vector of claim 4, wherein the gag sequence comprises the nucleotide			
2	22	sequence of SEQ ID NO:2, or a portion thereof.			
2	23				
2	24	7. The vector of claim 3, wherein at least two internal ATG codons of the			
2	25	packaging sequence have been altered.			
2	26				
2	27	8. The vector of claim 3, wherein the internal codon which is altered is the codon			
2	28	at residues 1097-1099 of SEQ ID NO:1.			



	30	9.	The vector of claim 3, wherein the internal codon which is altered is the codo		
	31	at residues	1589-1591 of SEQ ID NO:1.		
	32				
	33	10.	The vector of claim 3, wherein the internal codon at residues 1097-1099 and		
	34	the interna	l codon at residues 1589-1591 of SEQ ID NO:1 have been altered.		
	35				
	36	11.	The vector of claim 2, wherein one, two or all of the nucleotides of the ATG		
	37	codon(s) h	ave been altered.		
	38				
	39	12.	The vector of claim 1, wherein the vector includes a heterologous insert		
	40	sequence.			
Q	41				
Щ пі	42	13.	A vector comprising from 5' to 3':		
Ŋ	41 42 43	a) a	a packaging sequence, wherein at least one ATG codon of the packaging sequence		
TU LU	44	has been a	ltered;		
s L:	45	b) :	a heterologous insert sequence or restriction sites for insertion of a heterologous		
	46	sequence; and			
H	45 46 47 48	c) :	a 3' LTR sequence, wherein the 3' LTR comprises a proviral recovery sequence.		
	48				
-	49	14.	The vector of claim 13, wherein at least two ATG codons of the packaging		
	50	sequence l	nave been altered.		
	51				
	52	15.	The vector of claim 14, wherein the ATG initiation codon of the packaging		
	53	sequence a	and at least one internal ATG codon of the packaging sequence have been altered.		
	54				
	55	16.	The vector of claim 13, wherein the packaging sequence is a gag sequence.		
	56				
	57	17.	The vector of claim 16, wherein the gag sequence is an amino-terminal		
	58	portion of	the gag gene.		
	59				

60	18.	The vector of claim 14, wherein at least two internal ATG codons of the		
61	packaging se	equence have been altered.		
62				
63	19.	The vector of claim 14, wherein the internal codon which is altered is the		
64	codon at resi	dues 1097-1099 of SEQ ID NO:1.		
65				
66	20.	The vector of claim 14, wherein the internal codon which is altered is the		
67	codon at resi	dues 1589-1591 of SEQ ID NO:1.		
68				
69	21.	The vector of claim 14, wherein the internal codon at residues 1097-1099 and		
□ 70	the internal o	codon at residues 1589-1591 of SEQ ID NO:1 have been altered.		
迈 迈71				
立 立 71 立 72 心	22.	The vector of claim 14, wherein all of the nucleotides of the ATG codon(s)		
Ĩ ₩ 73	have been al	tered.		
เมี 73 เมื เมื 74				
75	23.	The vector of claim 13, wherein the vector includes a heterologous insert		
_ □ 76	sequence.			
 - M 77				
☐ 76	24.	The viral vector of claim 13, further comprising a bacterial origin of		
≓ 79	replication.			
80				
81	25.	The viral vector of claim 24, wherein at least a portion of the bacterial origin		
82	of replication	n has been removed.		
83				
84	26.	The viral vector of claim 13, wherein the bacterial marker sequence is a		
85	•			
86				
87	27.	The viral vector of claim 13, wherein the proviral recovery sequence is		
88	located withi	in a portion of the 3' LTR which duplicates upon integration.		
89				
90	28.	A vector comprising from 5' to 3':		



91	a) a p	backaging sequence, wherein at least one ATG codon of the packaging sequence			
92	has been altered;				
93	b) a h	neterologous insert sequence or restriction sites for insertion of a heterologous			
94	sequence;				
95	c) a bacterial marker sequence, wherein the bacterial marker is less than 600 basepairs				
96	in length; and	d			
97	d) a 3	3' LTR sequence, wherein the 3' LTR comprises a proviral recovery sequence.			
98					
99	29.	A viral vector comprising:			
100 		a) a packaging sequence;			
<u></u>		b) a heterologous insert sequence;			
回01 归02		c) a bacterial marker sequence, wherein the bacterial marker sequence is less			
1403 1104	than 600 basepairs in length;				
1 04		d) a 3' LTR comprising a proviral recovery sequence,			
105 105		wherein the vector comprises and can express a heterologous insert sequence			
<u></u> 106	greater than about 8 kilobases in length.				
<u>⊨</u> 107					
円06 口 円07 円08	30.	The viral vector of claim 29, wherein the packaging sequence is altered at an			
- 109	initiation codon of the packaging sequence and at least one potential initiation codon of the				
110	packaging sequence.				
111					
112	31.	The viral vector of claim 29, further comprising a bacterial origin of			
113	replication.				
114					
115	32.	The viral vector of claim 31, wherein at least a portion of the bacterial origin			
116	of replication has been removed.				
117					
118	33.	The viral vector of claim 29, wherein the bacterial marker sequence is a			
119	bleomycin marker sequence.				
120					